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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,458	10/27/2003	Brian E. Joseph	07620001C1	2930
48642	7590	03/25/2008		
PHILIP D. LANE P.O. BOX 79318 CHARLOTTE, NC 28271-7063			EXAMINER MILLER, DANIEL H	
			ART UNIT	PAPER NUMBER
			1794	
			MAIL DATE	DELIVERY MODE
			03/25/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/693,458

**Applicant(s)**

JOSEPH, BRIAN E.

**Examiner**

DANIEL MILLER

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 29-30 and 40-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Page 16 line 1-5 of the instant specification is the only place that applicant discusses aluminum or Inconel. Applicant discloses their use as protective or antioxidant layers coated on the carbonaceous foam core. Nowhere does applicant disclose using aluminum or Inconel as additives "incorporated into" the carbonaceous foam as claimed. Therefore it is not clear that applicant had possession of the invention, as claimed, at the time the application was filed.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear how the surface of an insulating core is

positioned "over a structure". The physical relationship of the core to the structure is not clear. It could be suspended over the structure attached to the structure, etc. Further, what applicant means by "structure" is unclear. Clarification required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 39, and 42-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Hojaji et al (US 4,430,108).

7. Hojaji teaches a carbon foam formed from coal derived ash or fly ash (column 6 line 23-35). The foam can have a density from about 400 to about 1100kg/m<sup>3</sup> (or 0.4 g/cc to about 1.1 g/cc), overlapping applicant's claimed range (see column 9 line 4-8). The carbon foam has additives comprising glass forming alkali metal halides (see abstract and column 7), including boron oxide forming compounds and silicon oxide forming compounds.

8.

***Claim Rejections - 35 USC § 103***

Art Unit: 1794

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 22-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubbard et al (US 5,125,992) in view of Hojaji et al (US 4,430,108).

11. Hubbard teaches a foam material coated with material intended to absorb electromagnetic radiation. The foam material can comprise polystyrene loaded with carbon (column 1 line 10-20), polyurethane foams (column 8), or Syntactic foams (column 12 line 40-45). The sheets of foam material can be coated with a multiple layers of material comprising aluminum or Inconel (column 5 lines 5-10, 36-41). Further, overcoatings of dielectric material including epoxy resins, or silicon oxide can be added affording greater product stability and protection from exposure to degrading chemicals or environments (column 6 line 35-50).

12. Hubbard is silent as to the use of glass forming oxidation inhibitors incorporated into the foam core.

13. Hojaji teaches a carbon foam formed from coal derived ash or fly ash (column 6 line 23-35). The foam can have a density from about 400 to about 1100kg/m<sup>3</sup> (or 0.4 g/cc to about 1.1 g/cc), overlapping applicant's claimed range (see column 9 line 4-8). The carbon foam has additives comprising glass forming alkali metal halides (see abstract and column 7), including boron oxide forming compounds and silicon oxide forming compounds.

Art Unit: 1794

14. Hojaji teaches the foam can be used for insulating material wherein heat and acoustic insulation, high strength, heat and chemical resistance are desired (column 1 line 1-35). The glassy foam has advantages over polystyrene and polyurethanes in that they are structurally stronger and more heat resistant (column 1 line 21-33).

15. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the foam of Hojaji as a substitute for the foam of Hubbard because both inventions want heat resistance, high strength, and chemical resistance and the glassy foam has advantages over polystyrene and polyurethanes (taught by Hubbard) in that they are structurally stronger and more heat resistant (column 1 line 21-33 Hojaji).

16. Regarding claims 29-30 and 40-41, it would further be obvious to provide aluminum or Inconel as an additive to the carbon foam in order to further enhance the ability of Hubbard to absorb electromagnetic radiation.

17. Regarding claims 27-28, the fly ash has ceramic particles as constituent material and the possible additives are considered to be ceramic particles.

18. Regarding claim 25, the carbon foam is calcined (or carbonized; column 3 line 30-35).

19. Regarding claim 34, the foam core is covered by face sheets on both major surfaces and is therefore considered to be over a structure (i.e. facesheets, see figures).

20. Regarding claim 24, it would have been obvious to one of ordinary skill to provide a foam having a compressive strength up to about 6000 psi in order to provide a structurally stronger foam that provides greater support and insulating properties.

### ***Response to Arguments***

21. Applicant's arguments with respect to claims 22-43 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL MILLER whose telephone number is (571)272-1534. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571)272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KEITH D. HENDRICKS/  
Supervisory Patent Examiner, Art Unit 1794

Daniel Miller